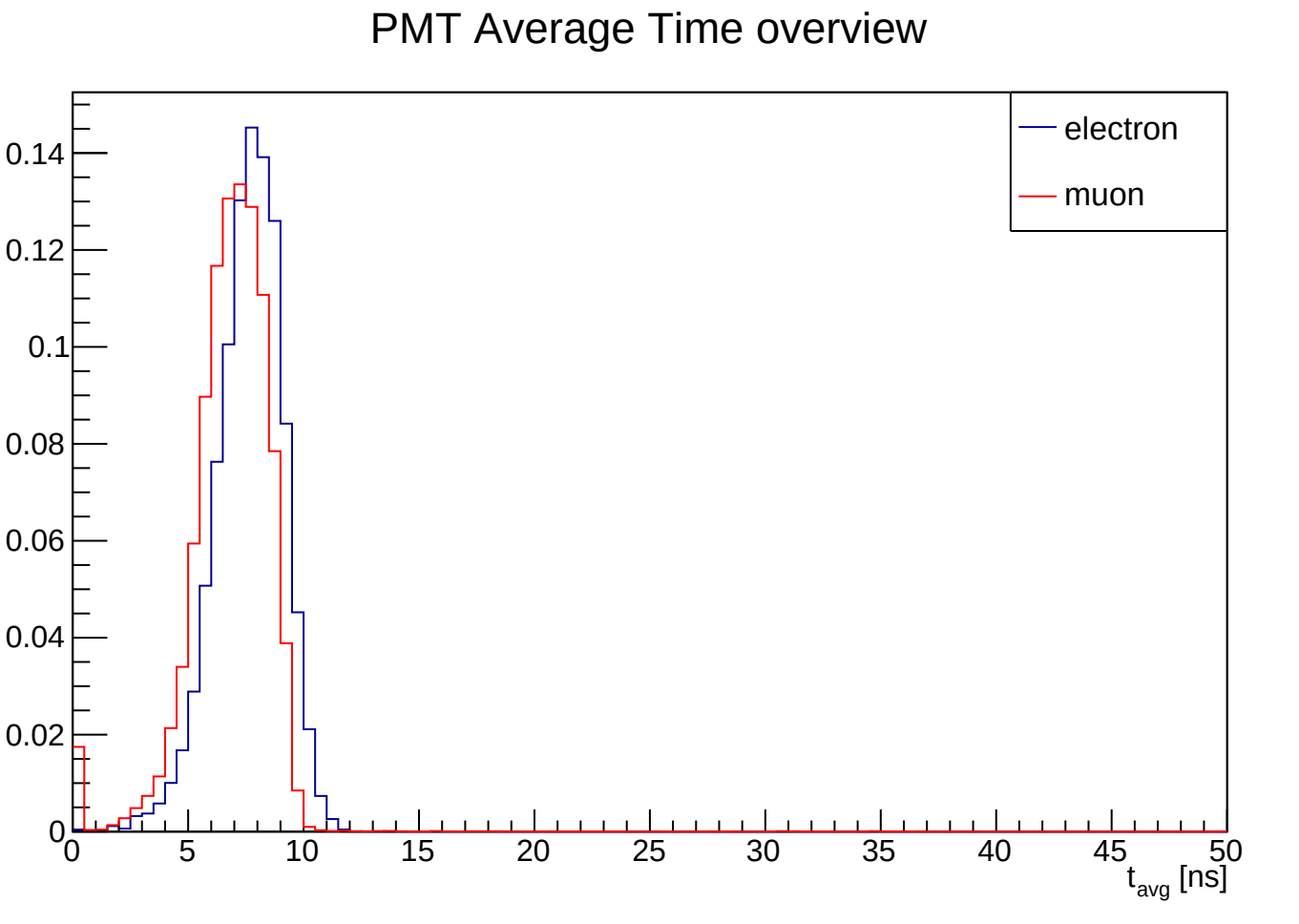
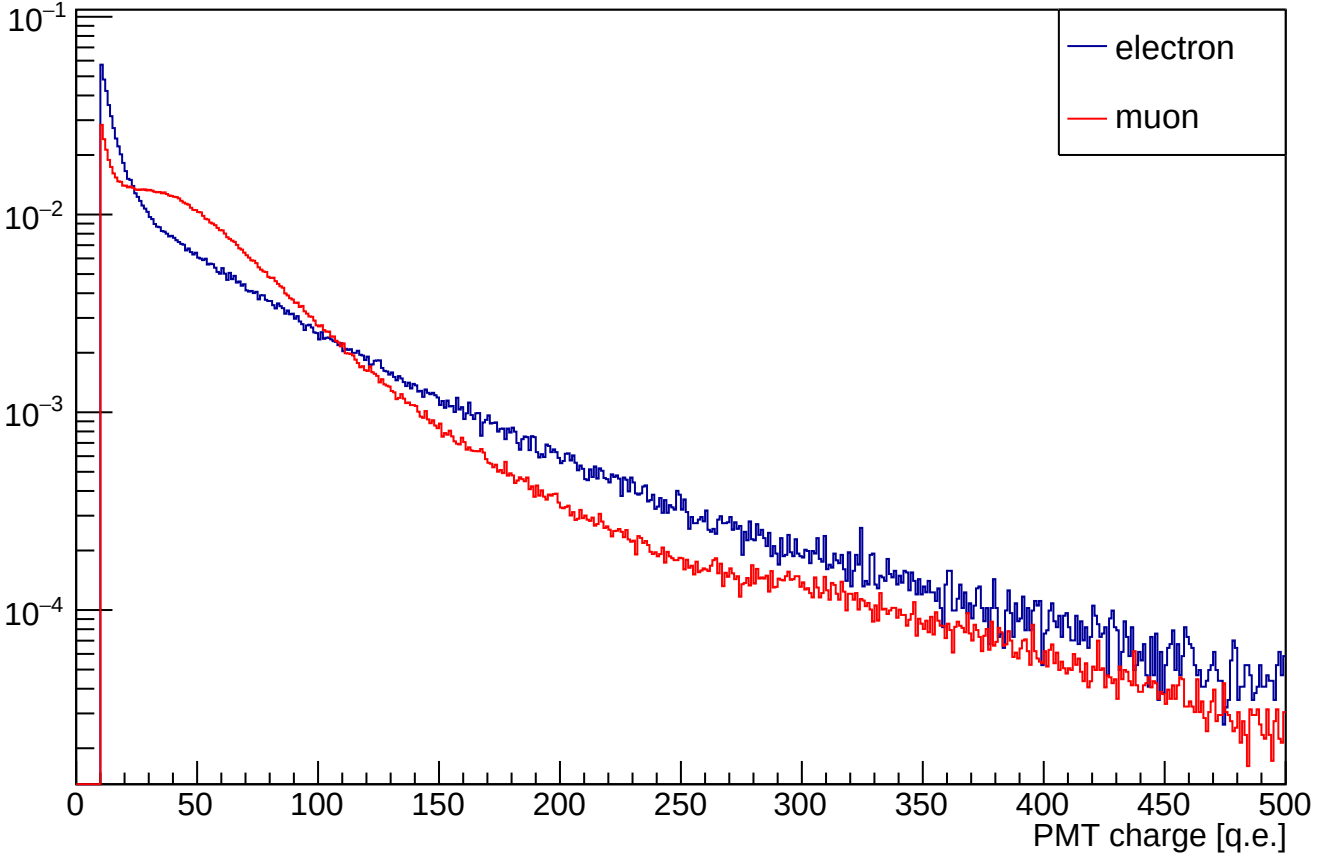
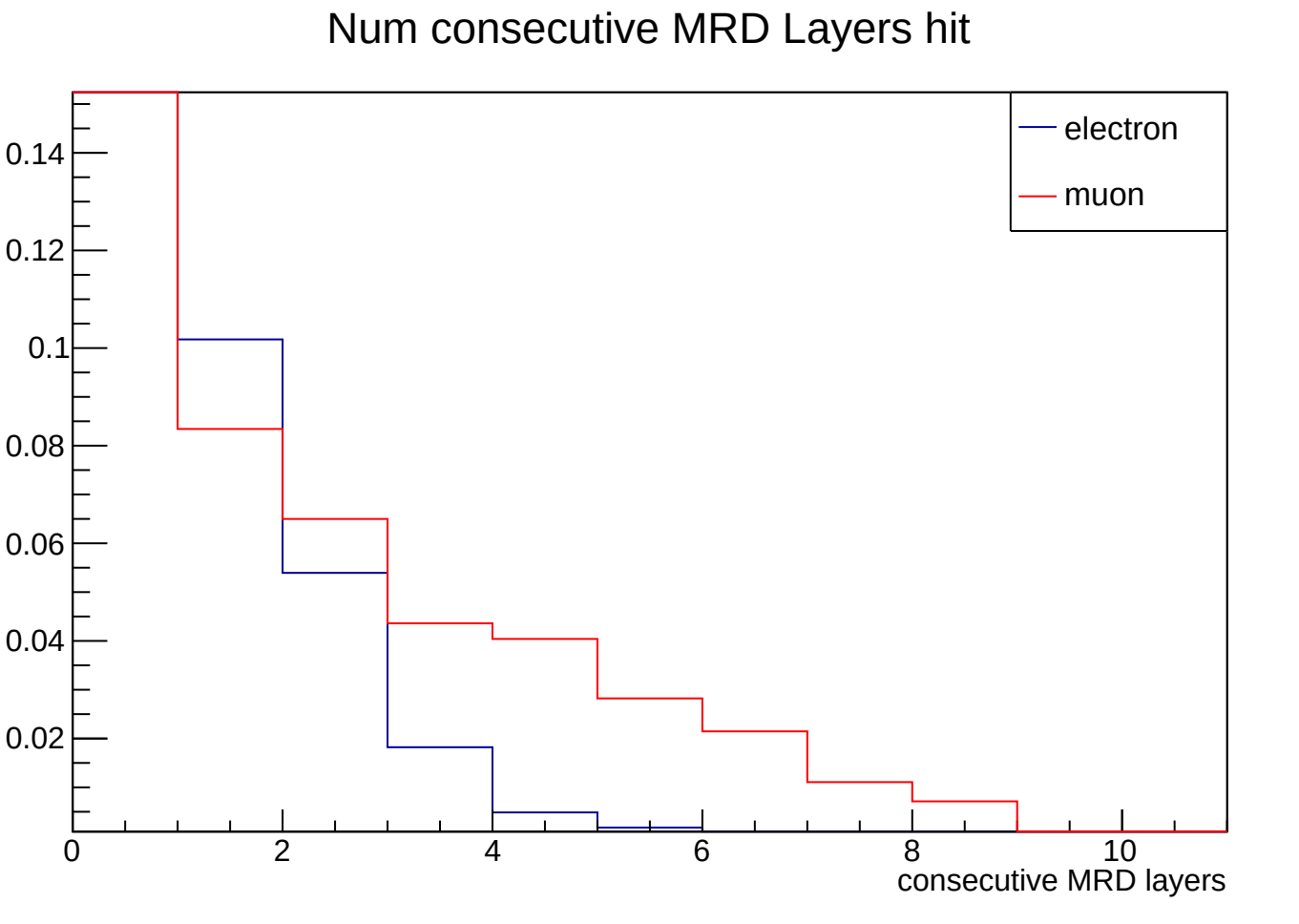
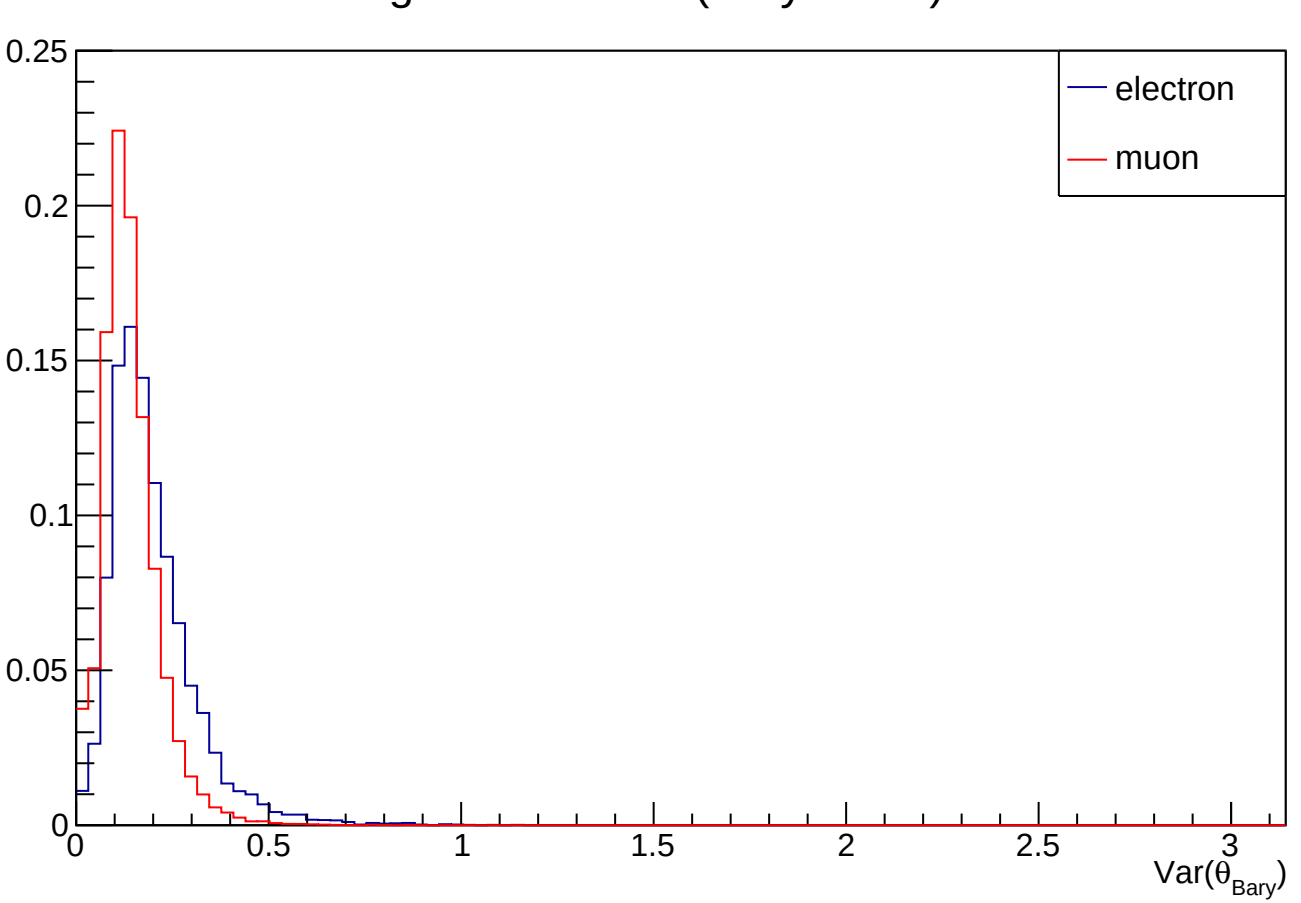
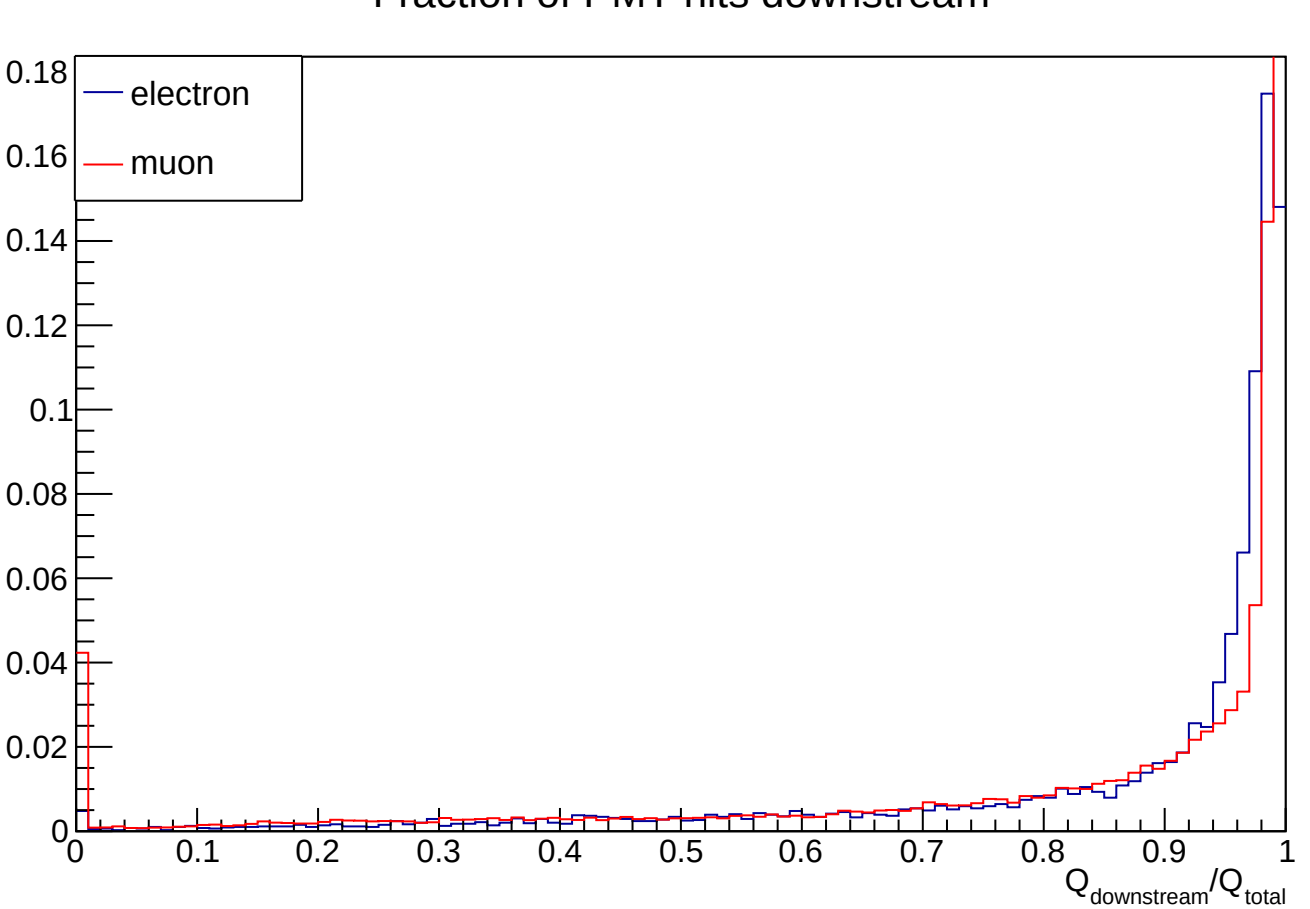
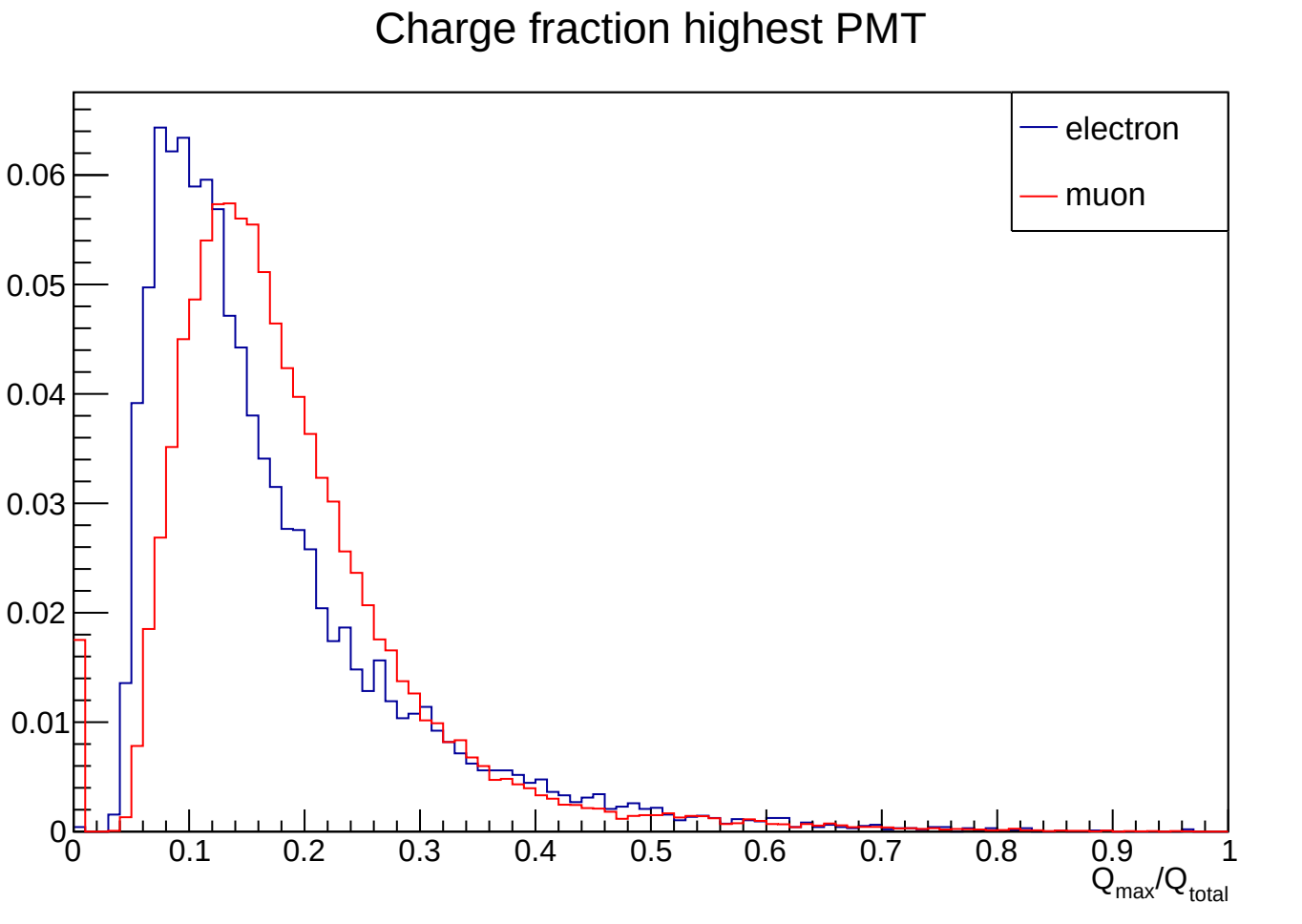

PMT Average Time overview
electron
muon
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
0
5
10
15
20
25
30
35
40
45
50
t_avg [ns]

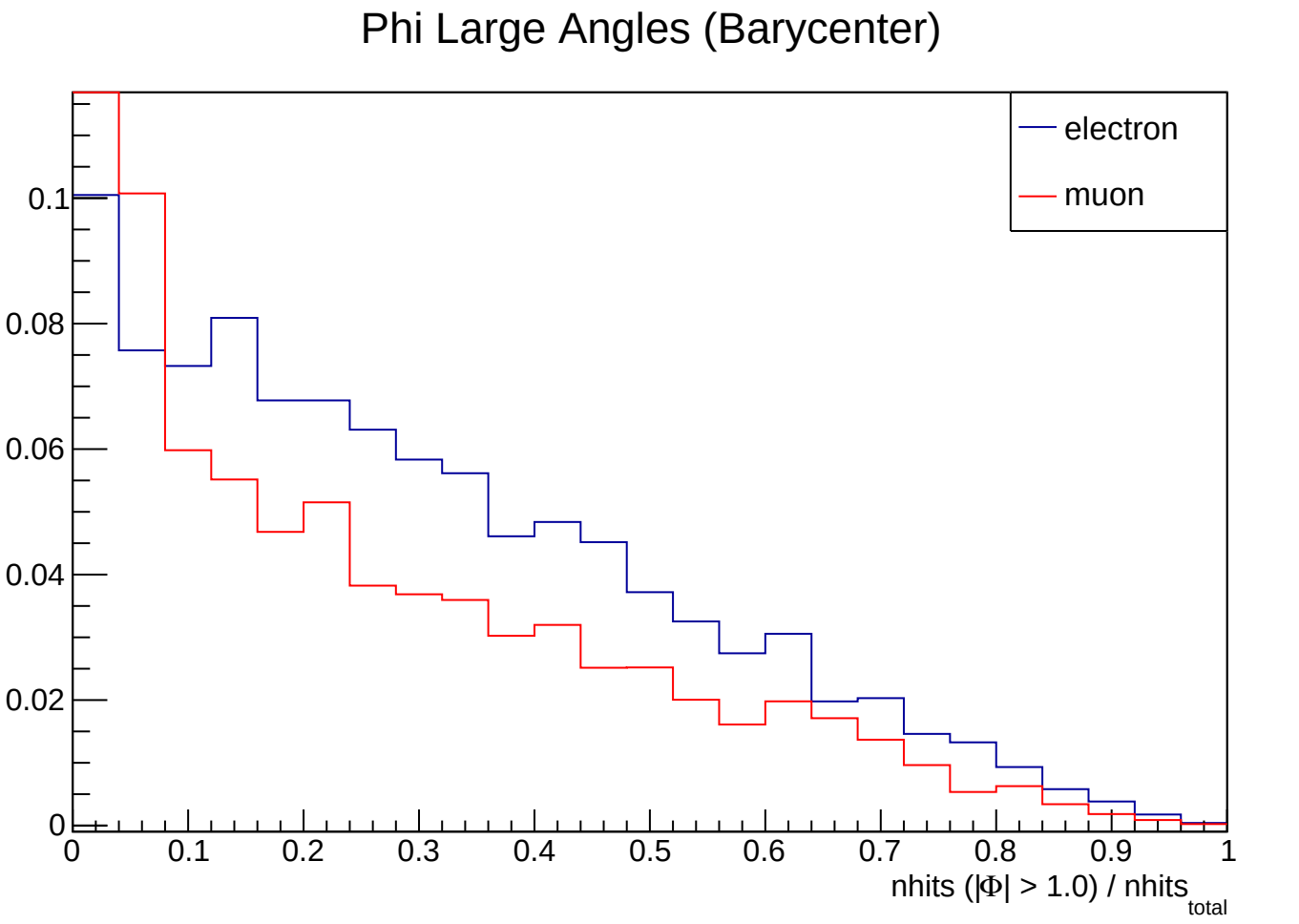

Single PMT Charge overview
electron
muon
10^{-1}
10^{-2}
10^{-3}
10^{-4}
0
50
100
150
200
250
300
350
400
450
500
PMT charge [q.e.]

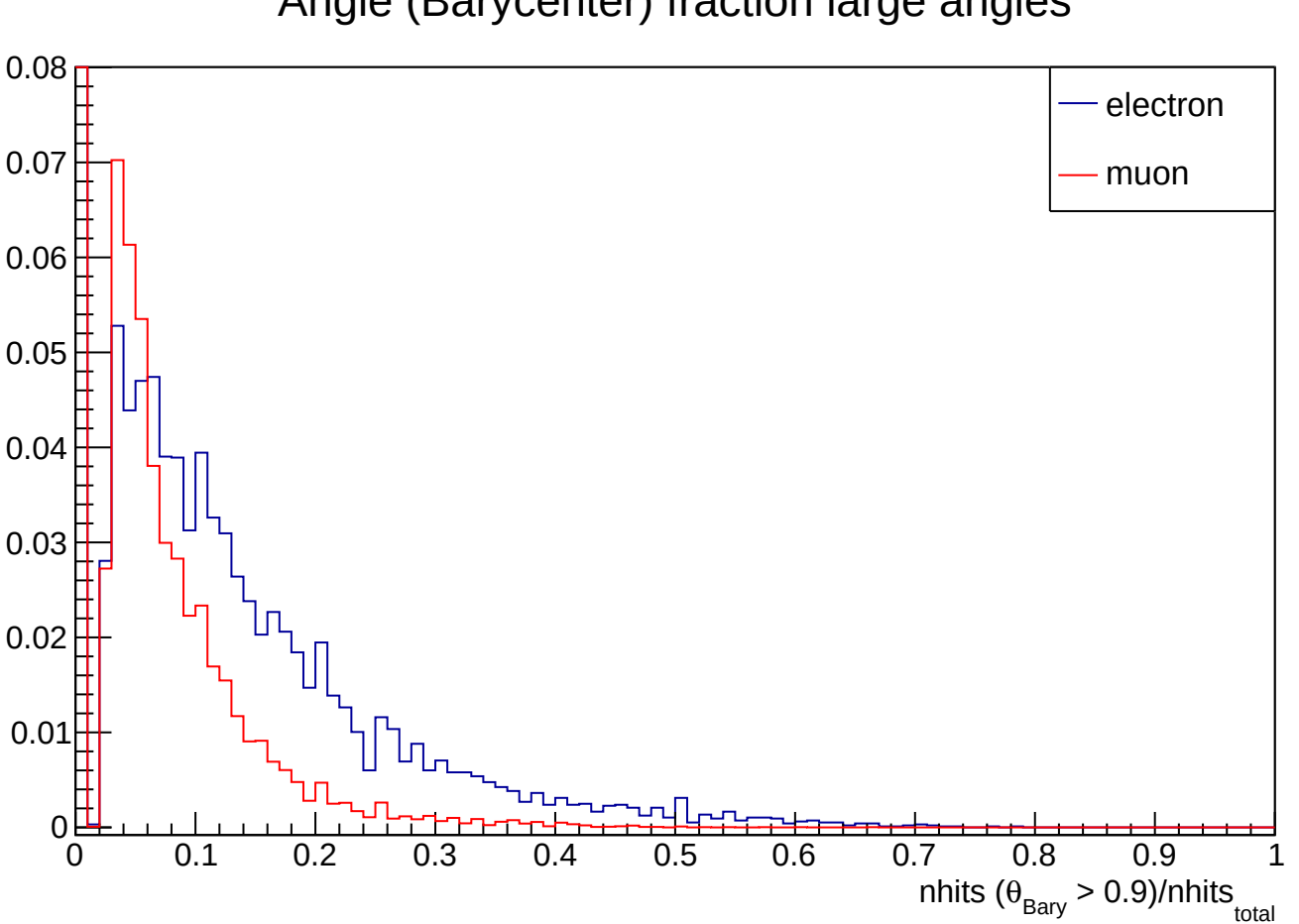

Num consecutive MRD Layers hit
electron
muon
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
2
4
6
8
10
consecutive MRD layers

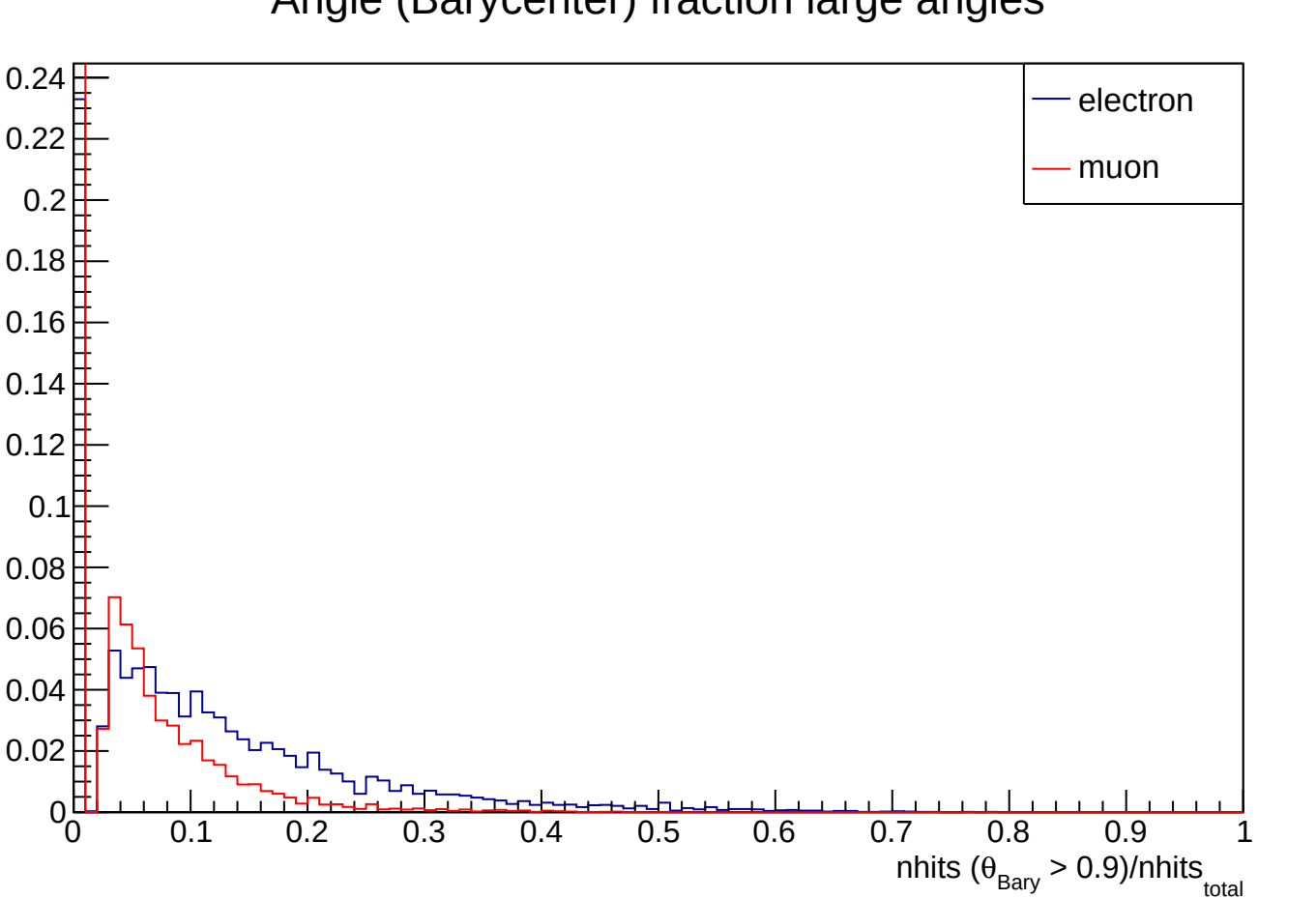

PMT Angular Variance (Barycenter) overview
0.25
0.2
0.15
0.1
0.05
0
0
0.5
1
1.5
2
2.5
3
Var(θBary)
electron
muon

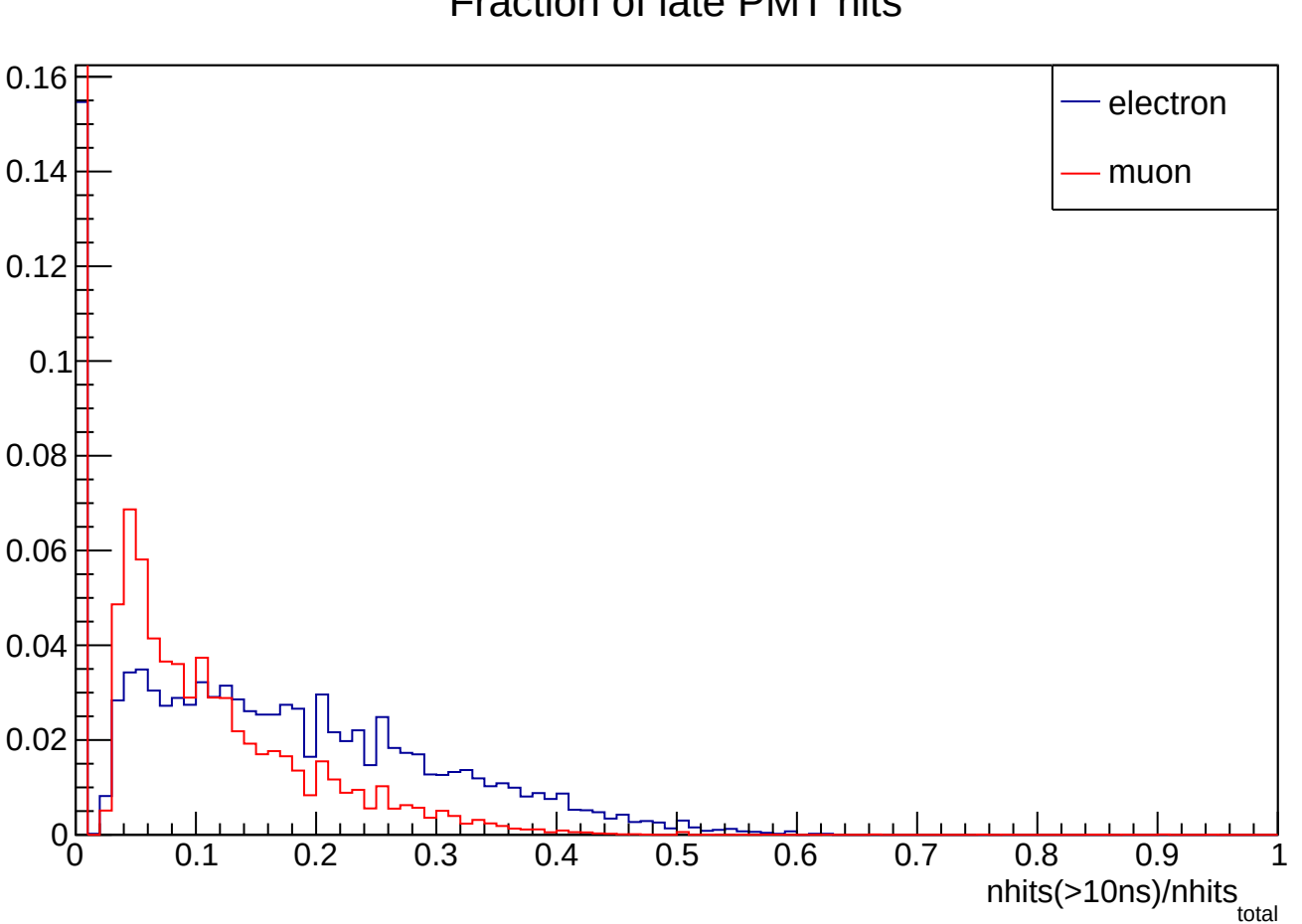

Fraction of PMT hits downstream
electron
muon
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
Q downstream /Q total

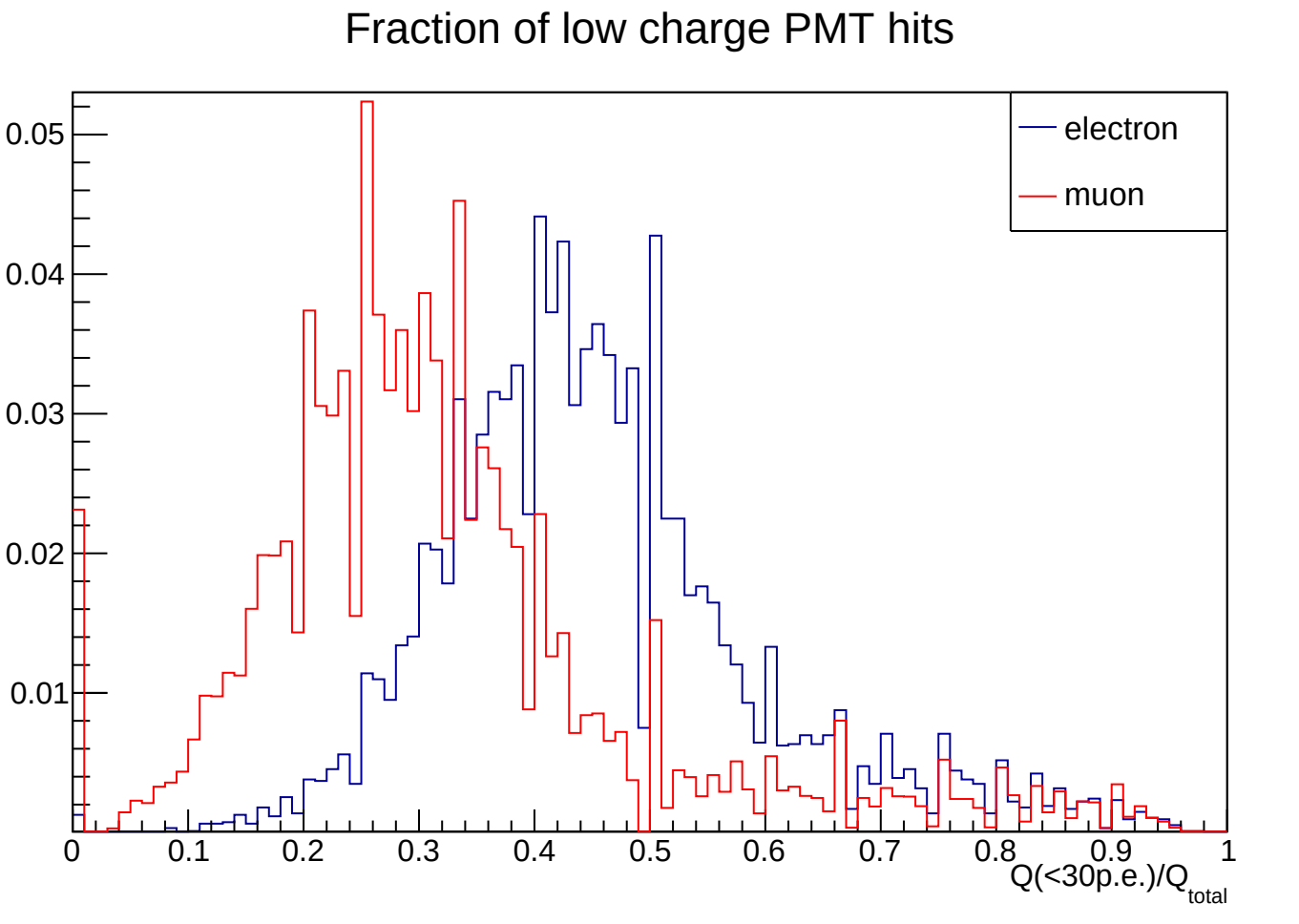

Charge fraction highest PMT
electron
muon
0.06
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
Q_max/Q_total

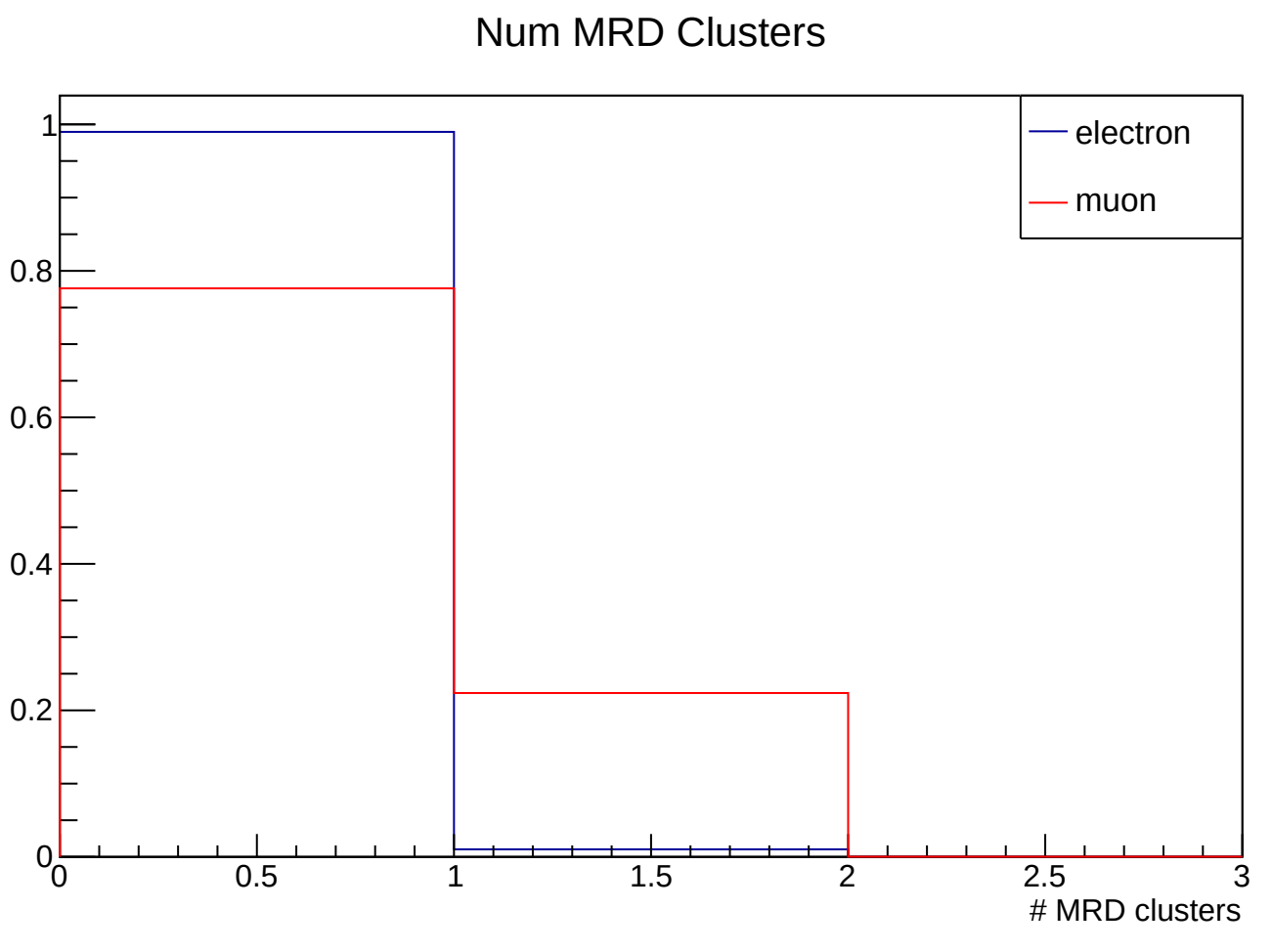

Phi Large Angles (Barycenter)
electron
muon
0.1
0.08
0.06
0.04
0.02
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
nhits (|Φ| > 1.0) / nhits
total

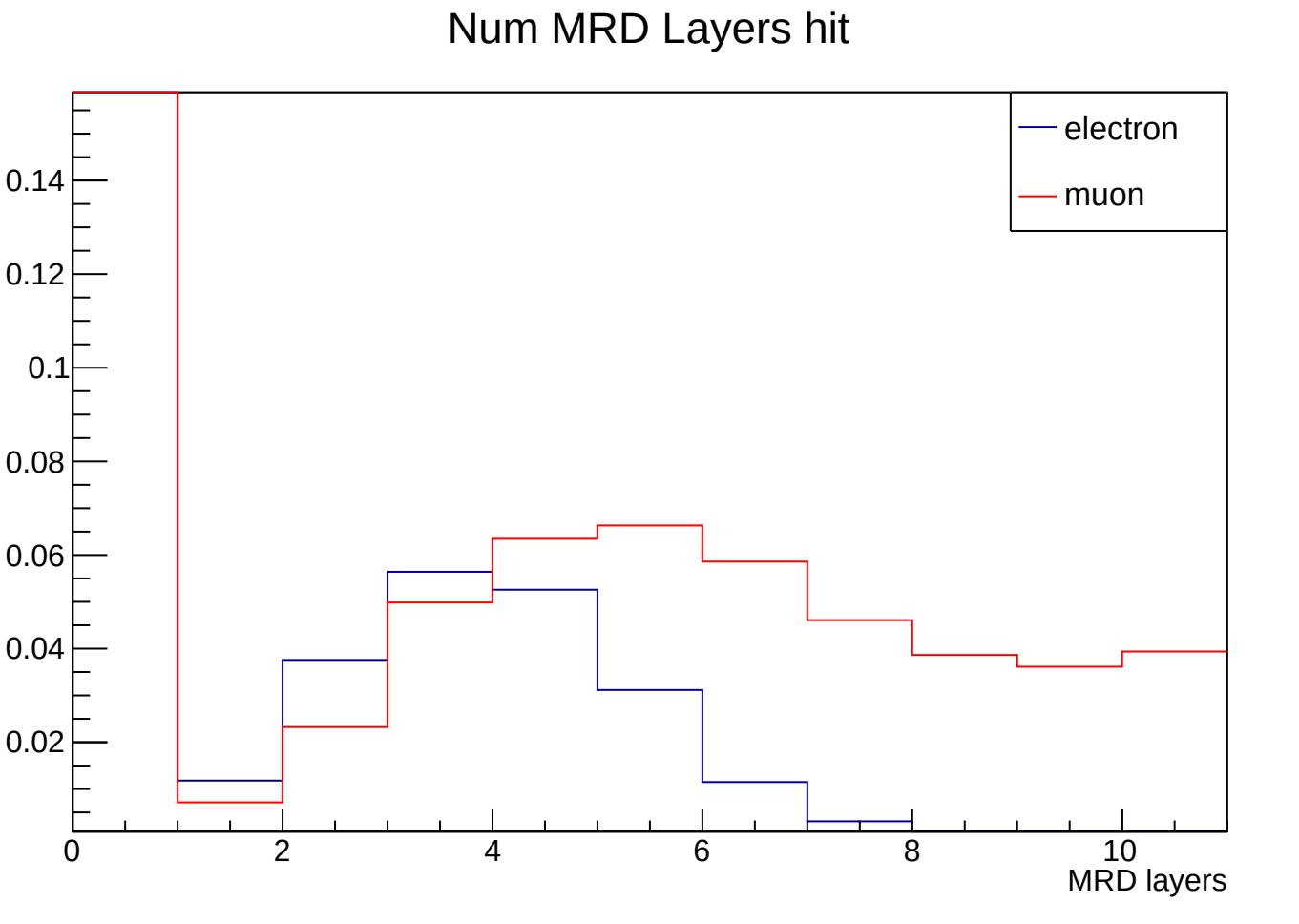

Angle (Barycenter) fraction large angles
electron
muon
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
nhits (θBary > 0.9)/nhitstotal

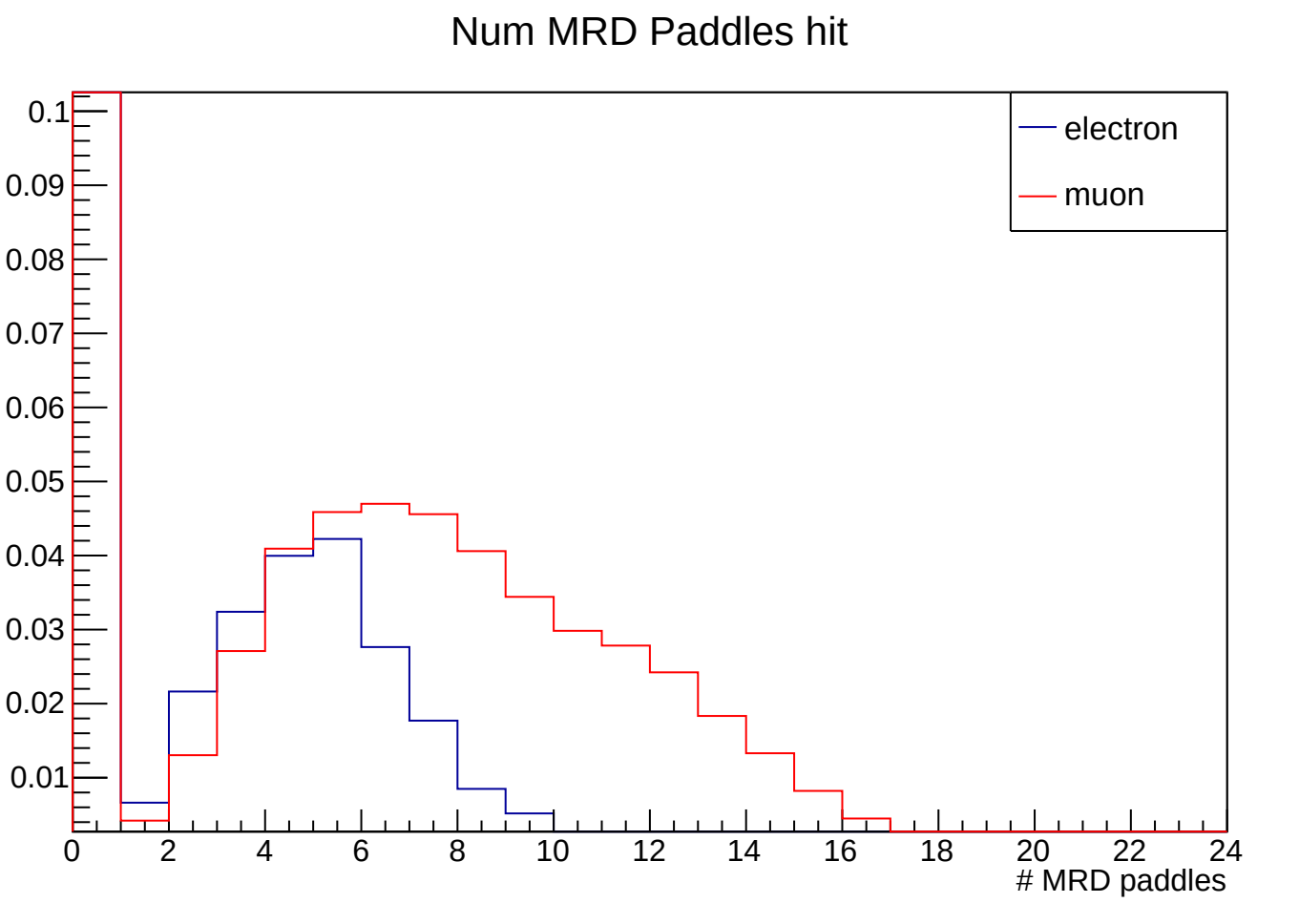

Angle (Barycenter) fraction large angles
electron
muon
0.24
0.22
0.2
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
nhits (θBary > 0.9)/nhitstotal

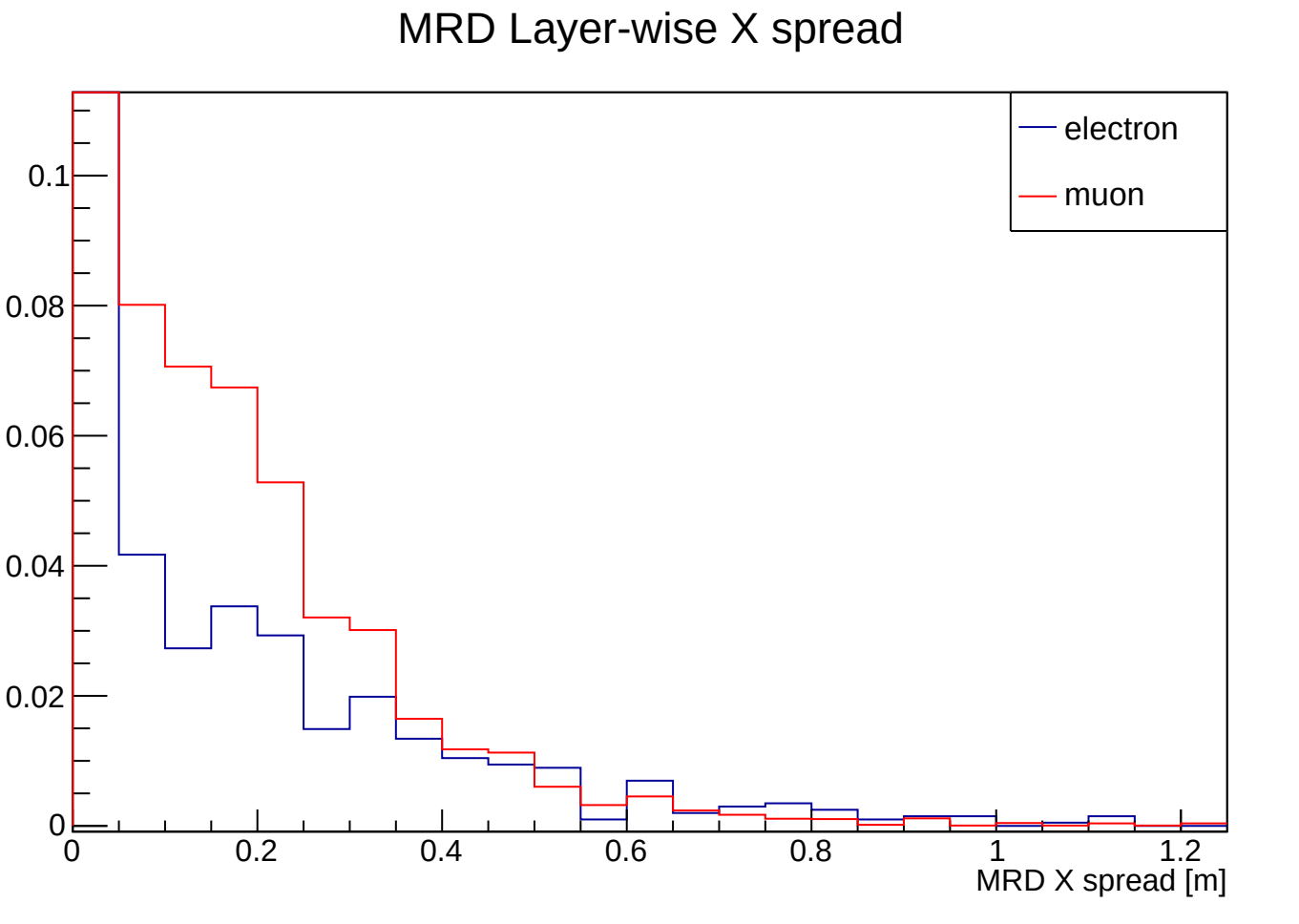

Fraction of late PMT hits
electron
muon
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
nhits(>10ns)/nhits
total

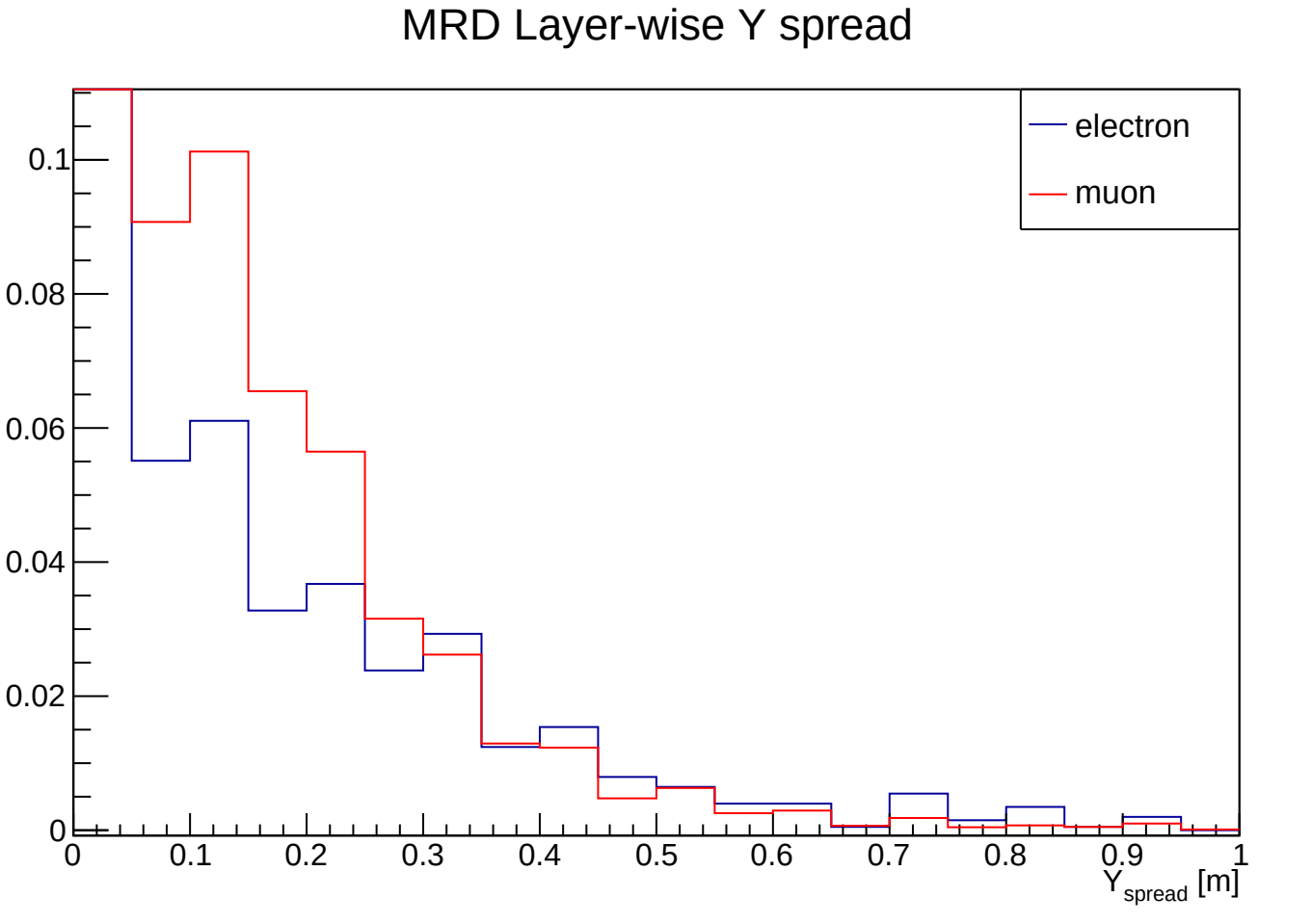

Fraction of low charge PMT hits
electron
muon
0.05
0.04
0.03
0.02
0.01
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
Q(<30p.e.)/Q total

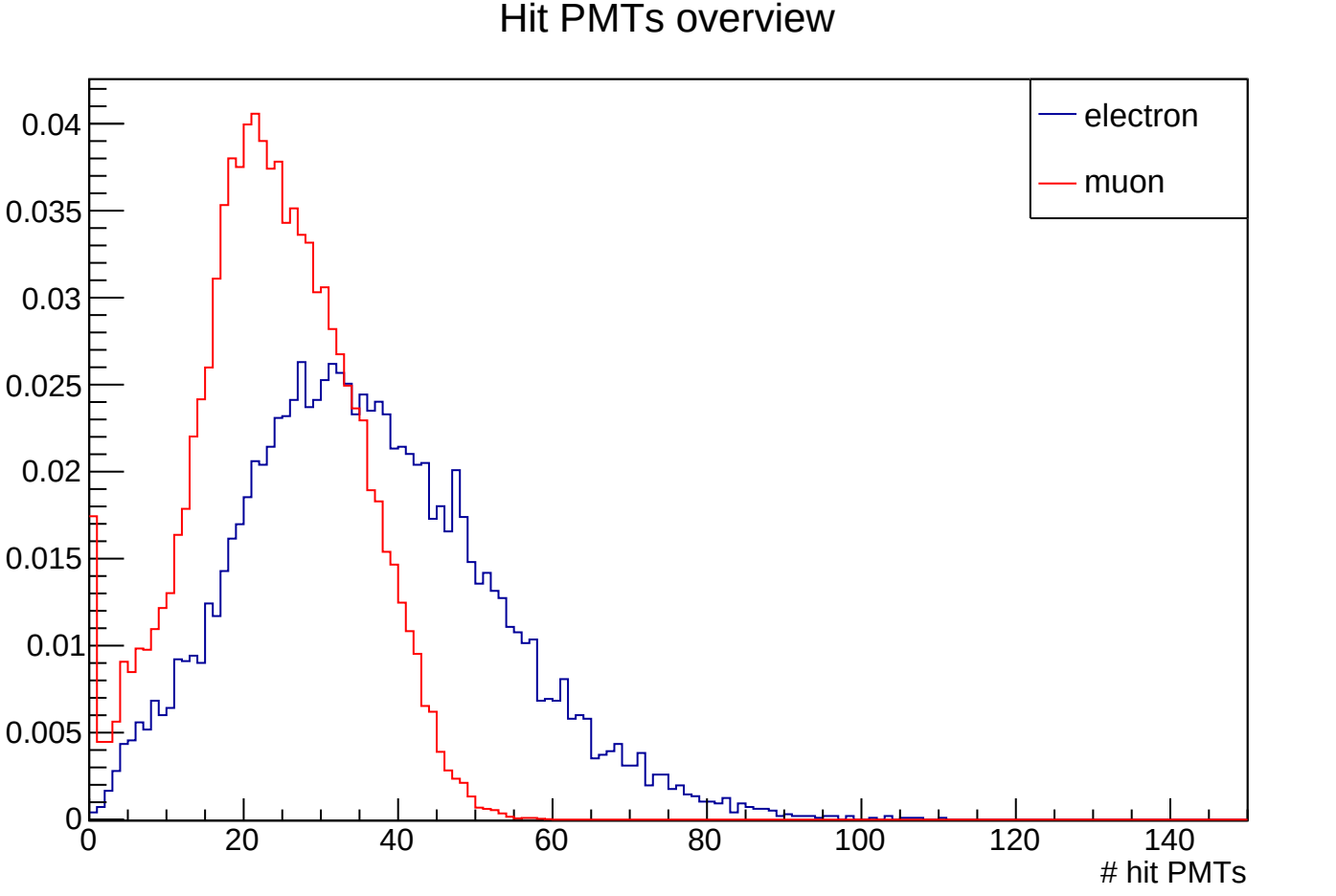

Num MRD Clusters
electron
muon
1
0.8
0.6
0.4
0.2
0
0
0.5
1
1.5
2
2.5
3
MRD clusters

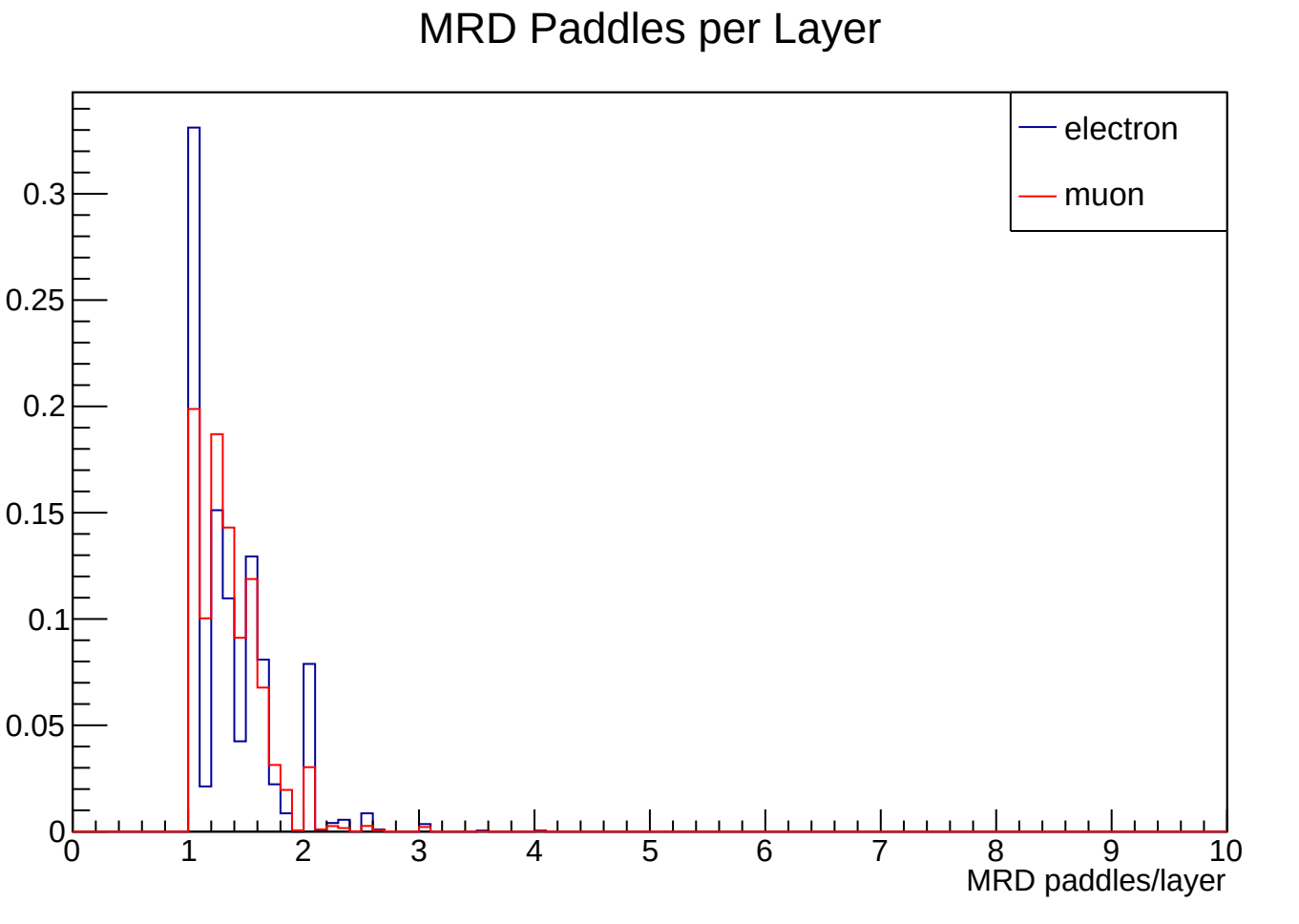

Num MRD Layers hit
electron
muon
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
2
4
6
8
10
MRD layers

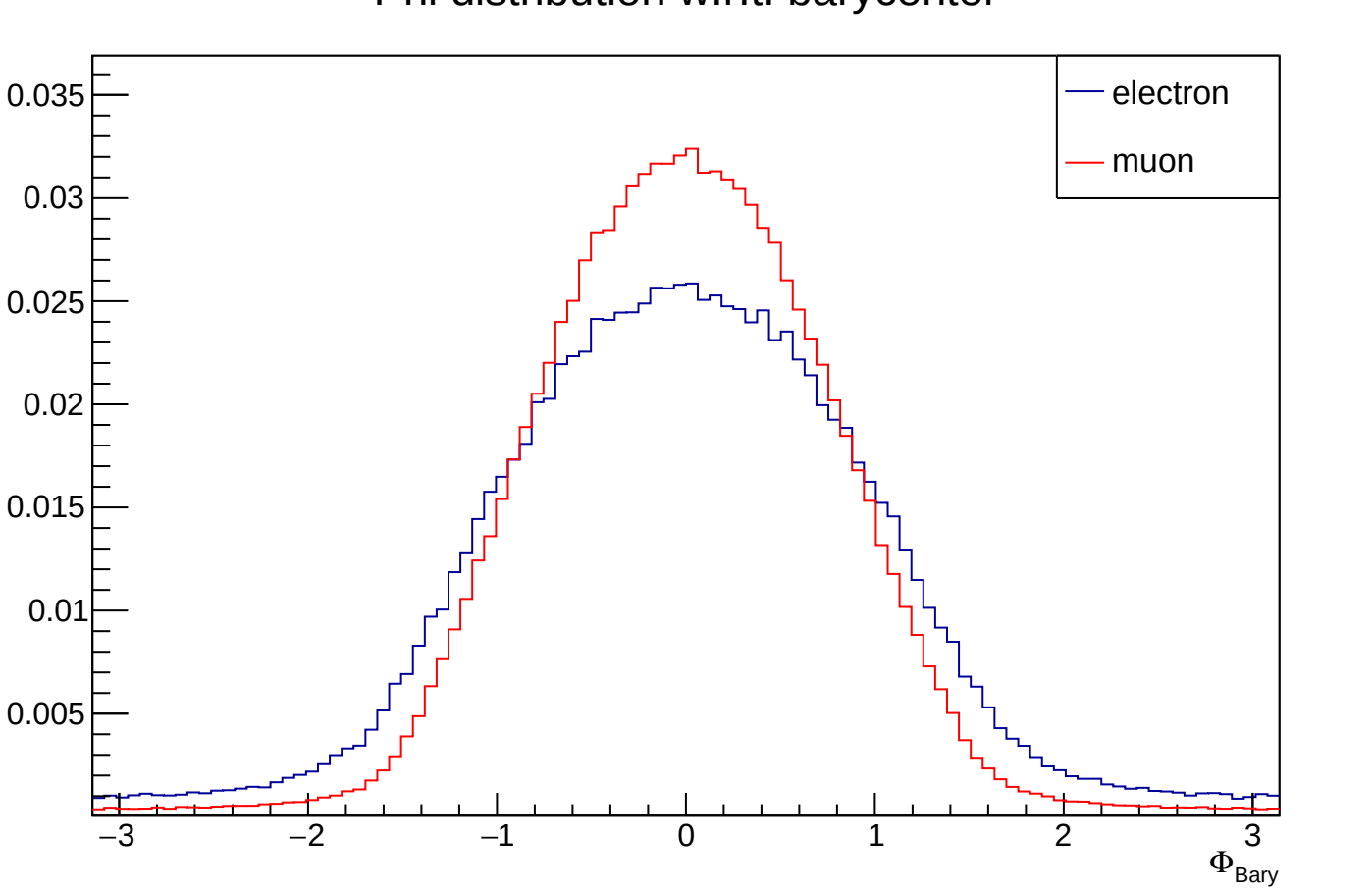

Num MRD Paddles hit
electron
muon
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
2
4
6
8
10
12
14
16
18
20
22
24
MRD paddles

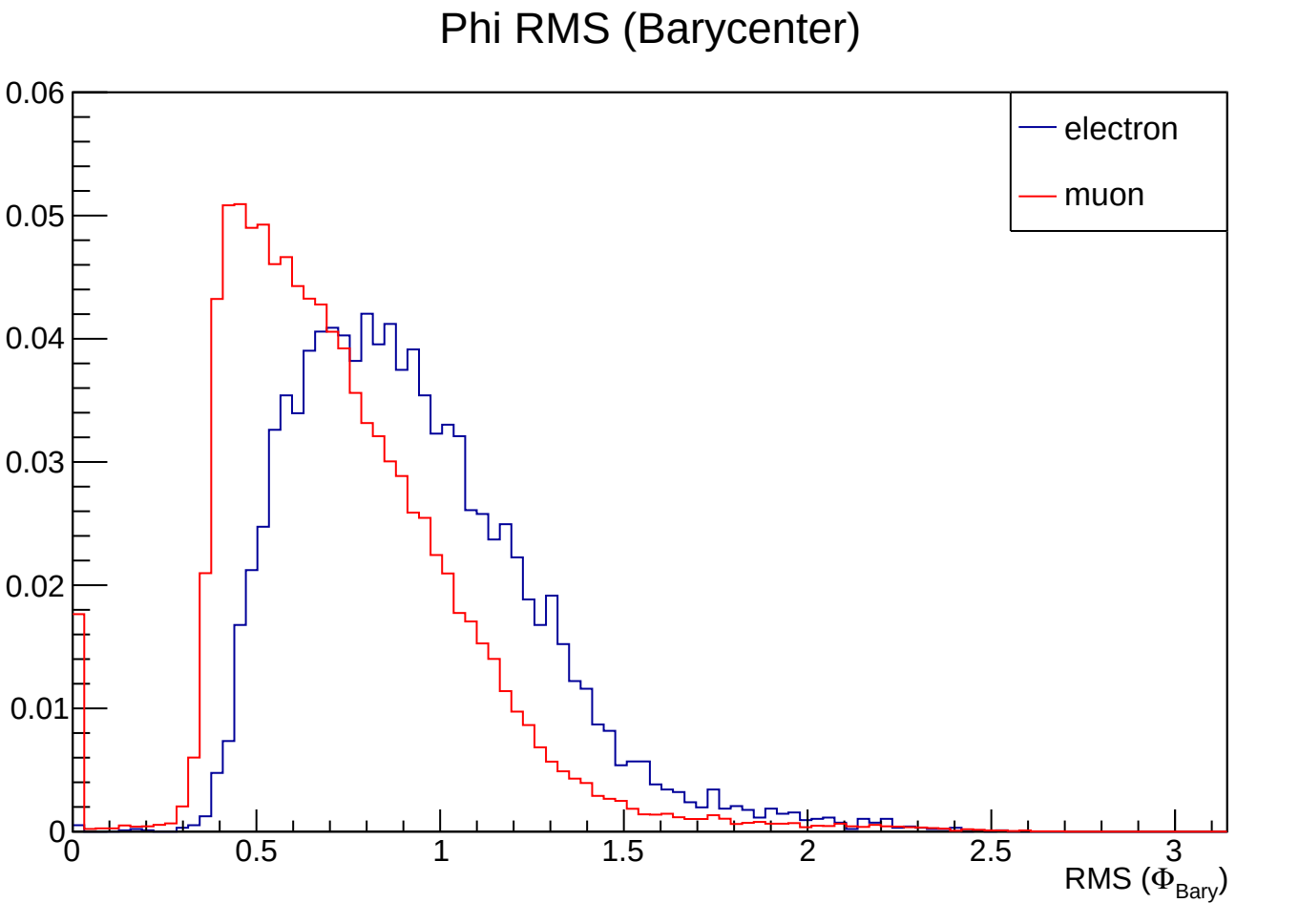

MRD Layer-wise X spread
electron
muon
0.1
0.08
0.06
0.04
0.02
0
0
0.2
0.4
0.6
0.8
1
1.2
MRD X spread [m]

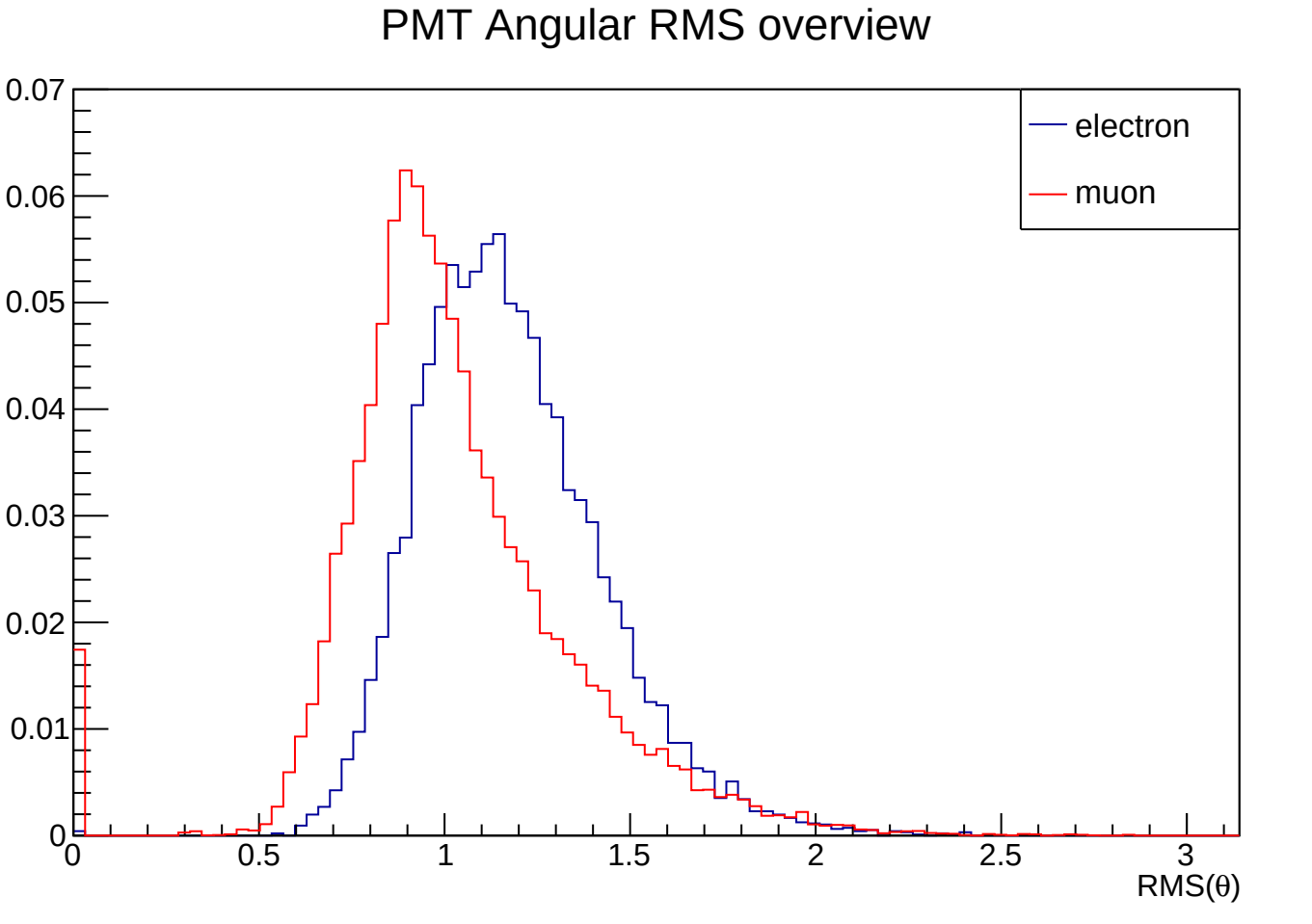

MRD Layer-wise Y spread
electron
muon
0.1
0.08
0.06
0.04
0.02
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
Y spread [m]

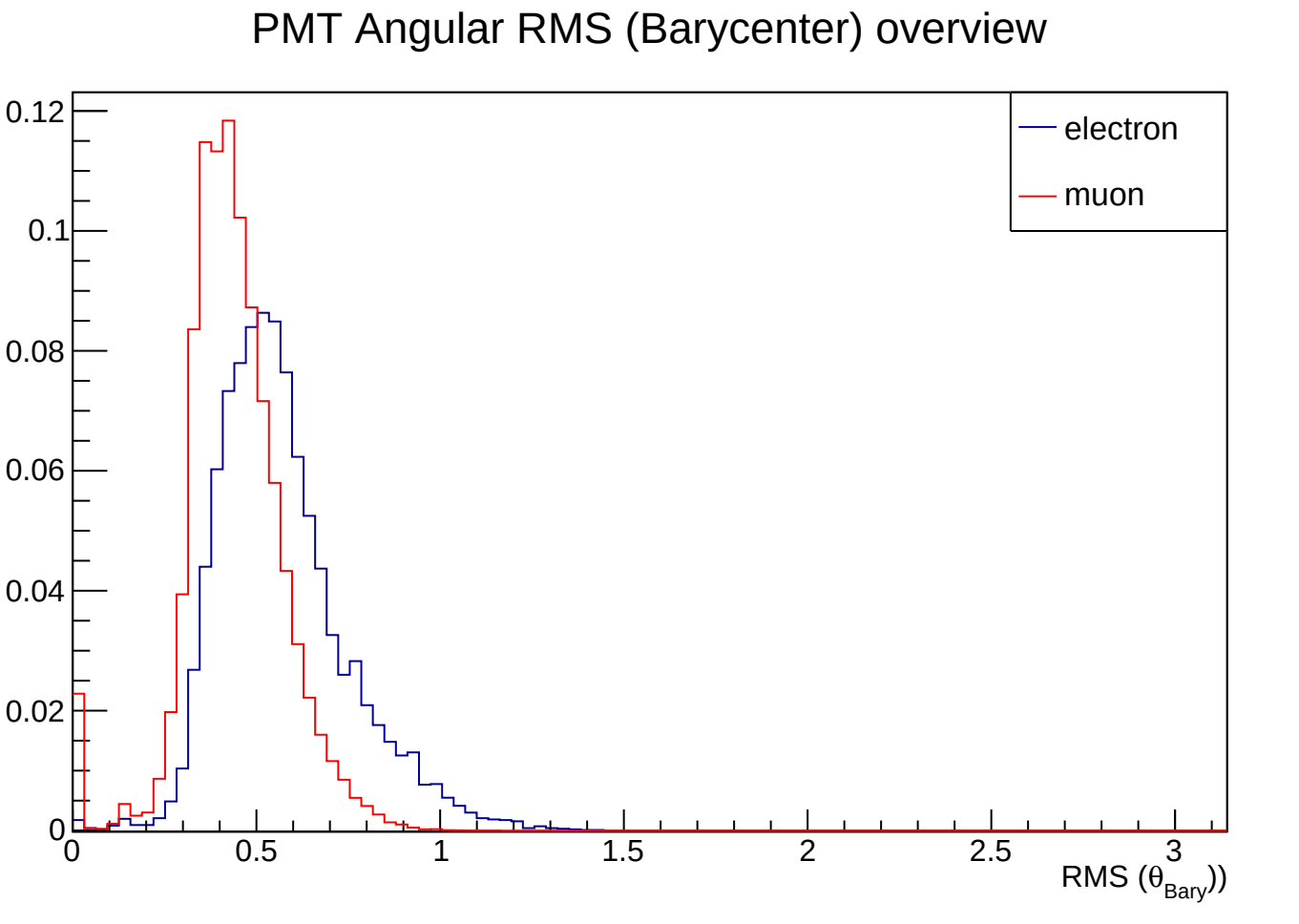

Hit PMTs overview
electron
muon
0.04
0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
0
20
40
60
80
100
120
140
hit PMTs

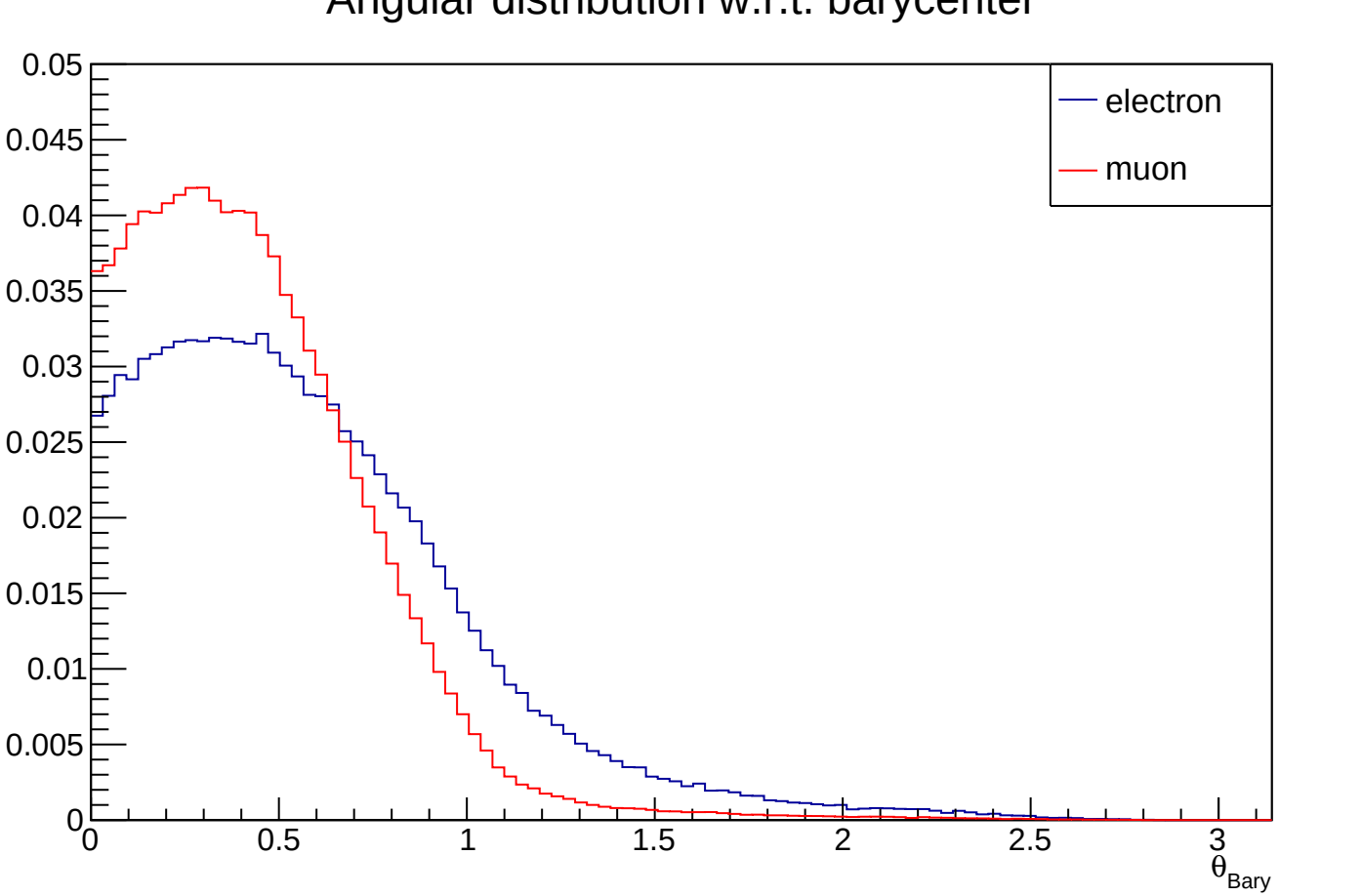

MRD Paddles per Layer
electron
muon
0.3
0.25
0.2
0.15
0.1
0.05
0
0
1
2
3
4
5
6
7
8
9
10
MRD paddles/layer

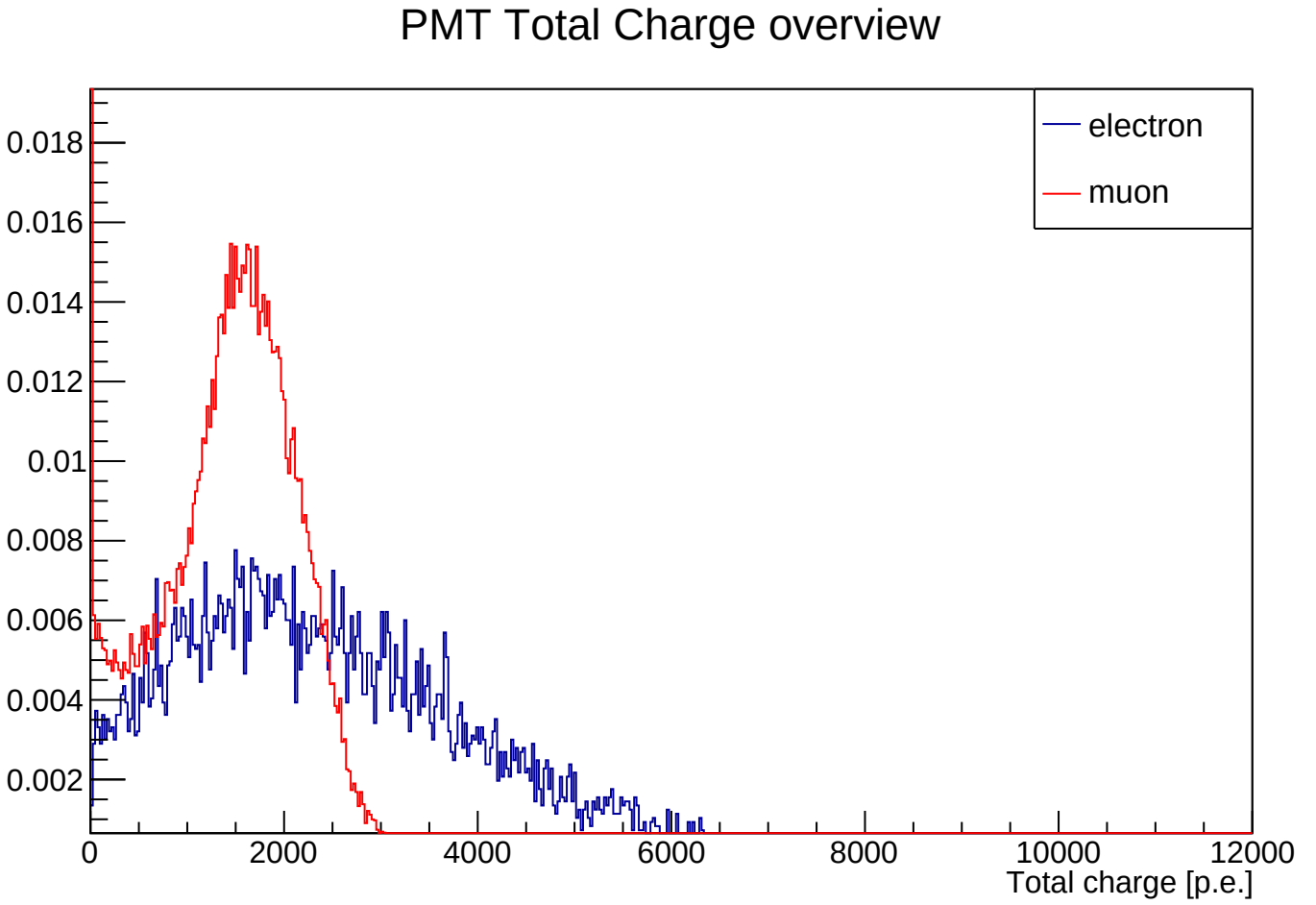

Phi distribution w.r.t. barycenter
electron
muon
0.035
0.03
0.025
0.02
0.015
0.01
0.005
−3
−2
−1
0
1
2
3
Φ Bary

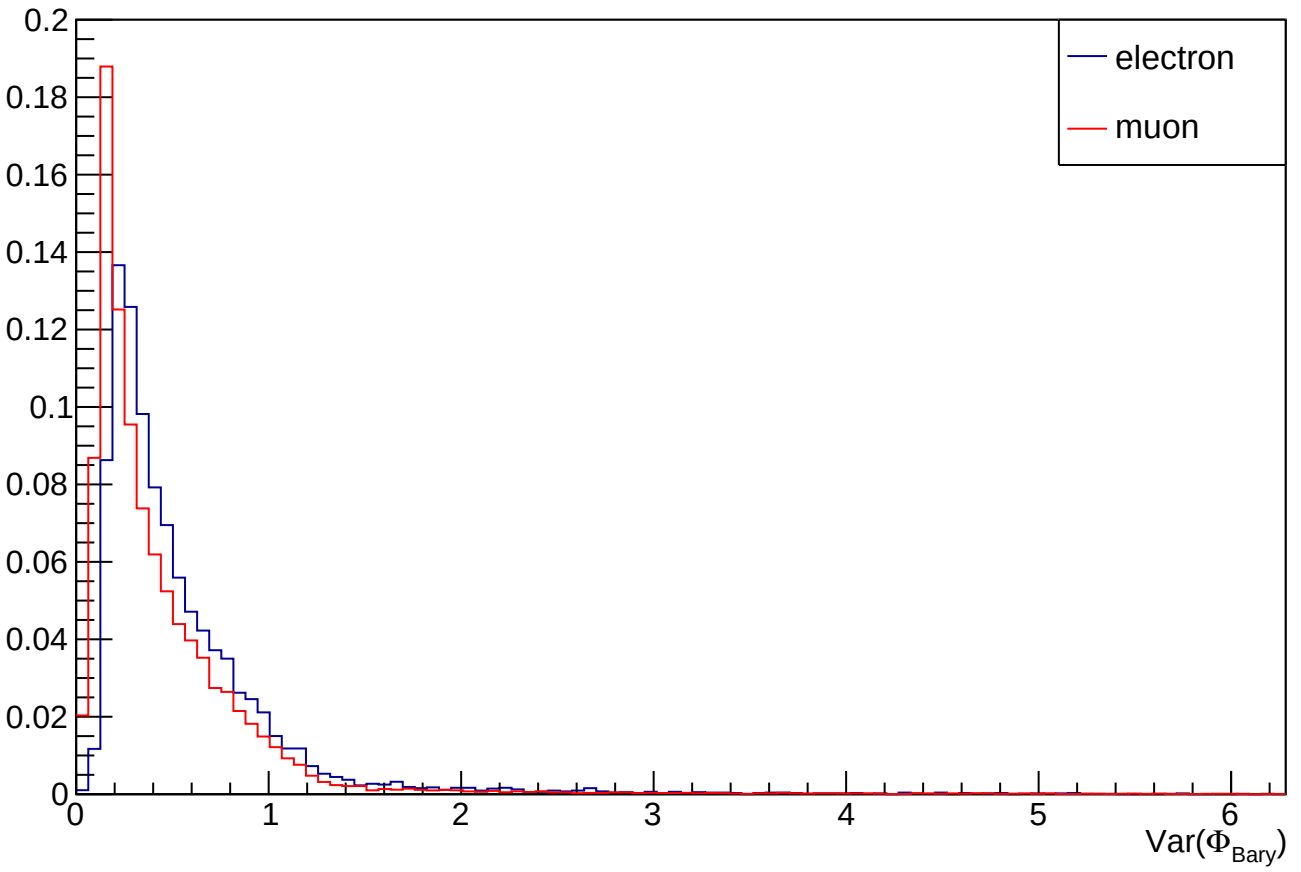

Phi RMS (Barycenter)
electron
muon
0.06
0.05
0.04
0.03
0.02
0.01
0
0
0.5
1
1.5
2
2.5
3
RMS (Φ_{Bary})

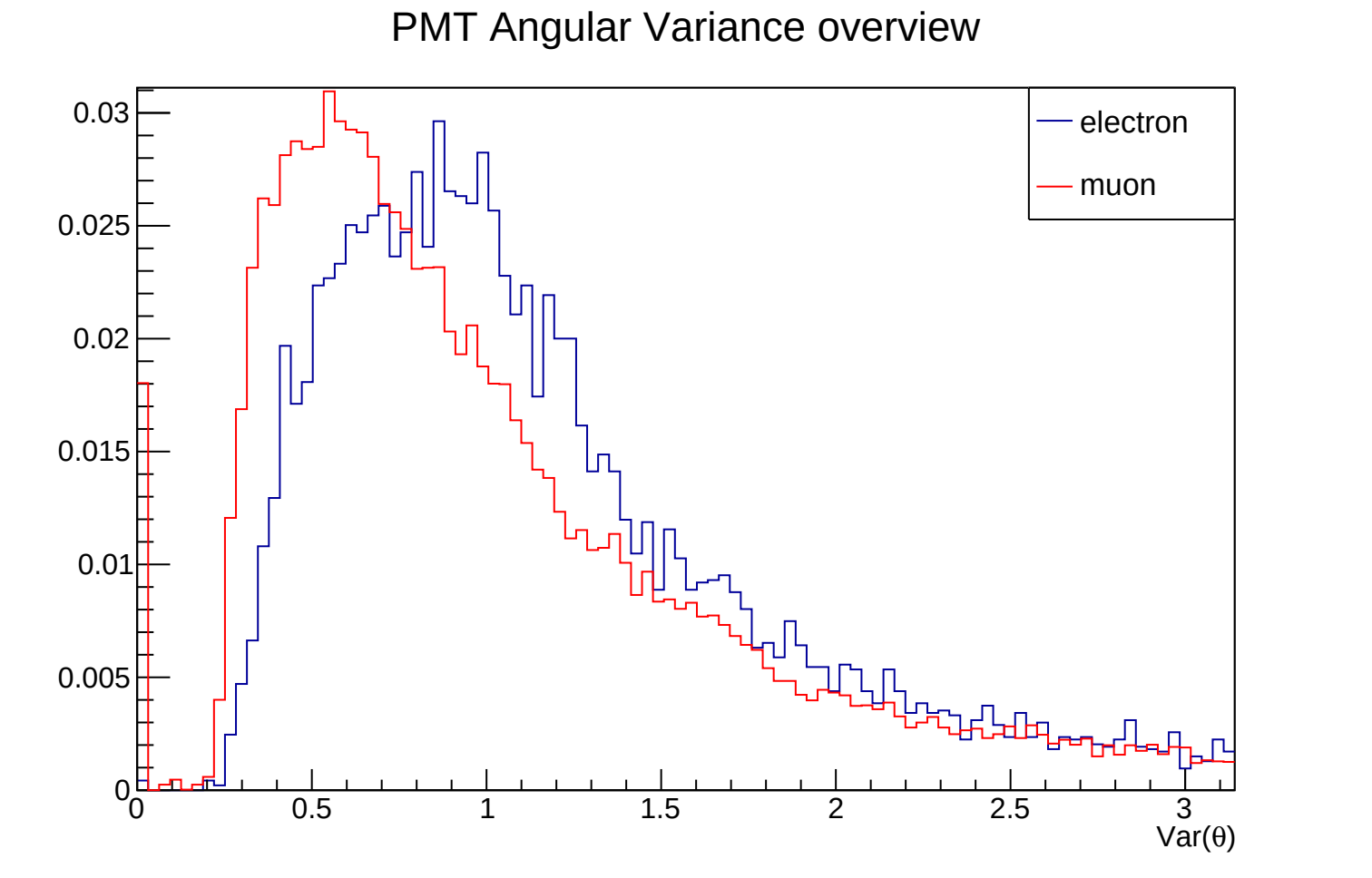

PMT Angular RMS overview
electron
muon
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
0
0.5
1
1.5
2
2.5
3
RMS(θ)


PMT Angular RMS (Barycenter) overview
electron
muon
0.12
0.1
0.08
0.06
0.04
0.02
0
0
0.5
1
1.5
2
2.5
3
RMS (θBary))


Angular distribution w.r.t. barycenter
electron
muon
0.05
0.045
0.04
0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
0
0.5
1
1.5
2
2.5
3
θBary


PMT Total Charge overview
electron
muon
0.018
0.016
0.014
0.012
0.01
0.008
0.006
0.004
0.002
0
2000
4000
6000
8000
10000
12000
Total charge [p.e.]


Phi Variance (Barycenter)
electron
muon
0.2
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
0
1
2
3
4
5
6
Var(Φ_Bary)


PMT Angular Variance overview
electron
muon
0.03
0.025
0.02
0.015
0.01
0.005
0
0
0.5
1
1.5
2
2.5
3
Var(θ)